

Contents

VOLUME 19 NUMBER 1

MicroReview

- 1 **Flagellar assembly in *Salmonella typhimurium***
S.-I. Aizawa

Research Articles

- 7 **Involvement of σ^{54} in exponential silencing of the *Pseudomonas putida* TOL plasmid *Pu* promoter**
I. Cases, V. de Lorenzo & J. Pérez-Martín
- 19 **Expression of the *tolQRA* genes of *Escherichia coli* K-12 is controlled by the ResC sensor protein involved in capsule synthesis**
T. Clavel, J. C. Lazzaroni, A. Vianney & R. Portalier
- 27 **The 'petite-negative' yeast *Kluyveromyces lactis* has a single gene expressing pyruvate decarboxylase activity**
M. M. Bianchi, L. Tizzani, M. Destruelle, L. Frontali & M. Wéskolowski-Louvel
- 37 **The identification, cloning and mutagenesis of a genetic locus required for lipopolysaccharide biosynthesis in *Bordetella pertussis***
A. Allen & D. Maskell
- 53 **Use of chimeric recombinant polypeptides to analyse conformational, surface epitopes on trypanosome variant surface glycoproteins**
R. Hsia, T. Beals & J. C. Boothroyd
- 65 **Amino-terminal maturation of the *Bordetella pertussis* filamentous haemagglutinin**
F. Jacob-Dubuisson, C. Buisine, N. Mielcarek, E. Clément, F. D. Menozzi & C. Loch
- 79 **Expression of the *groESL* operon is cell-cycle controlled in *Caulobacter crescentus***
M. Avedissian & S. L. Gomes
- 91 **Physical mapping and expression of gene families encoding the *N*-acetyl α -galactosamine adherence lectin of *Entamoeba histolytica***
G. Ramakrishnan, B. D. Ragland, J. E. Purdy & B. J. Mann
- 101 **The local repressor AcrR plays a modulating role in the regulation of *arcAB* genes of *Escherichia coli* by global stress signals**
D. Ma, M. Alberti, C. Lynch, H. Nikaido & J. E. Hearst
- 113 **The *katE* gene, which encodes the catalase HPII of *Mycobacterium avium***
A. Milano, E. De Rossi, L. Gusberti, B. Heym, P. Marone & G. Riccardi
- 125 **FNR-DNA interactions at natural and semi-synthetic promoters**
J. Green, A. S. Irvine, W. Meng & J. R. Guest
- 139 **The specificity of fumarate as a switching factor of the bacterial flagellar motor**
R. Barak, I. Giebel & M. Eisenbach

- 145 ***In vitro* selection of optimal AbrB-binding sites: comparison to known *in vivo* sites indicates flexibility in AbrB binding and recognition of three-dimensional DNA structures**
K. Xu & M. A. Strauch
- 159 **Molecular characterization of hybrid Tbp2 proteins from *Neisseria meningitidis***
M. Legrain, A. Findeli, D. Villeval, M.-J. Quentin-Millet & E. Jacobs
- 171 **Light-induced carotenogenesis in *Myxococcus xanthus*: light-dependent membrane sequestration of ECF sigma factor CarQ by anti-sigma factor CarR**
H. C. Gorham, S. J. McGowan, P. R. H. Robson & D. A. Hodgson
- 187 **Purification of the Tn10-specified tetracycline efflux antiporter TetA in a native state as a polyhistidine fusion protein**
M. L. Aldema, L. M. McMurry, A. R. Walmsley & S. B. Levy

VOLUME 19 NUMBER 2

MicroReviews

- 197 **The *Escherichia coli* enzozskeleton**
V. Norris, G. Turnock & D. Sigee
- 205 **Aerolysin—the ins and outs of a model channel-forming toxin**
M. W. Parker, F. Gisou van der Goot & J. T. Buckley

Research Articles

- 213 **The effect of the stringent response on mutation rates in *Escherichia coli* K-12**
B. E. Wright
- 221 **Dramatic decay of phage transcripts in lactococcal cells carrying the abortive infection determinant AbiB**
R. Parreira, S. D. Ehrlich & M.-C. Chopin
- 231 **Post-transcriptional regulation of CspA expression in *Escherichia coli***
A. Brandi, P. Pietroni, C. O. Gualerzi & C. L. Pon
- 241 **Differential mRNA stability of the *cspA* gene in the cold-shock response of *Escherichia coli***
D. Goldenberg, I. Azar & A. B. Oppenheim
- 249 **A physical and genetic map of *Neisseria meningitidis* B1940**
M. Gähler, K. Einsiedler, T. Crass & W. Bautsch
- 261 **The unstable region of *Streptomyces ambofaciens* includes 210 kb terminal inverted repeats flanking the extremities of the linear chromosomal DNA**
P. Leblond, G. Fischer, F.-X. Francou, F. Berger, M. Guérineau & B. Decaris

- 273 ***Pneumocystis carinii* telomere repeats are composed of TTAGGG and the subtelomeric sequence contains a gene encoding the major surface glycoprotein**
A. P. Underwood, E. J. Louis, R. H. Borts, J. R. Stringer & A. E. Wakefield
- 283 **Translocation of surface antigen genes to a unique telomeric expression site in *Pneumocystis carinii***
S. M. Sunkin & J. R. Stringer
- 297 **Role of the propeptide in folding and secretion of elastase of *Pseudomonas aeruginosa***
P. Braun, J. Tommassen & A. Filloux
- 307 **Ambidextrous transcriptional activation by SoxS: requirement for the C-terminal domain of the RNA polymerase alpha subunit in a subset of *Escherichia coli* superoxide-inducible genes**
K.-W. Jair, W. P. Fawcett, N. Fujita, A. Ishihama & R. E. Wolf, Jr
- 319 **A dual role for the *Bacillus subtilis* *glpD* leader and the GlpP protein in the regulated expression of *glpD*: antitermination and control of mRNA stability**
E. Glatz, R.-P. Nilsson, L. Rutberg & B. Rutberg
- 329 ***In vitro* processing activity of *Bacillus subtilis* polynucleotide phosphorylase**
S. Mitra, K. Hue & D. H. Bechhofer
- 343 **Polynucleotide phosphorylase is necessary for competence development in *Bacillus subtilis***
A. Luttinger, J. Hahn & D. Dubnau
- 357 **Cloning, characterization and disruption of a (p)ppGpp synthetase gene (*relA*) of *Streptomyces coelicolor* A3(2)**
R. Chakraborty, J. White, E. Takano & M. Bibb
- 369 **Identification and characterization of genes required for post-translational modification of *Campylobacter coli* VC167 flagellin**
P. Guerry, P. Doig, R. A. Alm, D. H. Burr, N. Kinsella & T. J. Trust
- 379 **Characterization of a post-translational modification of *Campylobacter* flagellin: identification of a sero-specific glycosyl moiety**
P. Doig, N. Kinsella, P. Guerry & T. J. Trust
- 389 **Transcriptional activation of the *dnaA* gene encoding the initiator for *oriC* replication by *lciA* protein, an inhibitor of *in vitro* *oriC* replication in *Escherichia coli***
Y. S. Lee, H. Kim & D. S. Hwang
- 397 **The TraB protein, which mediates the intermycelial transfer of the *Streptomyces* plasmid pSN22, has functional NTP-binding motifs and is localized to the cytoplasmic membrane**
S. Kosono, M. Kataoka, T. Seki & T. Yoshida

MicroCorrespondence

- 407 **A new member of the Hha/YmoA class of bacterial regulators in plasmid R100 of *Escherichia coli*?**
J. M. Nieto & A. Juárez

MicroReviews

- 409 **Signal sensing by σ^{54} -dependent regulators: derepression as a control mechanism**
V. Shingler
- 417 **Heat-shock and general stress response in *Bacillus subtilis***
M. Hecker, W. Schumann & U. Völker

Research Articles

- 429 **M-related protein (Mrp) contributes to group A streptococcal resistance to phagocytosis by human granulocytes**
A. Podbielski, N. Schnitzler, P. Beyhs & M. D. P. Boyle
- 443 **The C-terminal domain of the *Rhizobium leguminosarum* chitin synthase NodC is important for function and determines the orientation of the N-terminal region in the inner membrane**
M.-A. Barny, E. Schoonejans, A. Economou, A. W. B. Johnston & J. A. Downie
- 455 **Characterization of the pectin methylesterase B, an outer membrane lipoprotein of *Erwinia chrysanthemi* 3937**
V. E. Shevchik, G. Condemine, N. Hugouvieux-Cotte-Pattat & J. Robert-Baudouy
- 467 ***Escherichia coli* K-12 genes essential for the synthesis of c-type cytochromes and a third nitrate reductase located in the periplasm**
J. Gove, S. Tanapongpipat, G. Thomas, L. Griffiths, H. Crooke & J. Cole
- 483 **Synthesis of the β and β' subunits of *Escherichia coli* RNA polymerase is autogenously regulated *in vivo* by both transcriptional and translational mechanisms**
D. M. Dykxhoorn, R. St Pierre & T. Linn
- 495 **Heterologous expression and self-assembly of the S-layer protein SbsA of *Bacillus stearothermophilus* in *Escherichia coli***
B. Kuen, M. Sára & W. Lubitz
- 505 **Multicopy single-stranded DNA of *Escherichia coli* enhances mutation and recombination frequencies by titrating MutS protein**
W. K. Maas, C. Wang, T. Lima, A. Hach & D. Lim
- 511 ***aarD*, a *Providencia stuartii* homologue of *cydD*: role in 2'-N-acetyltransferase expression, cell morphology and growth in the presence of an extracellular factor**
D. R. Macinga & P. N. Rather
- 521 **Physical and genetic map of the *Pseudomonas fluorescens* SBW25 chromosome**
P. B. Rainey & M. J. Bailey
- 535 **C-terminal domains of general regulatory factors Abf1p and Rap1p in *Saccharomyces cerevisiae* display functional similarity**
P. M. Gonçalves, K. Maurer, G. van Nieuw Amerongen, K. Bergkamp-Steffens, W. H. Mager & R. J. Planta

- 545 **A cytoplasmic gene-shuffle system in *Kluyveromyces lactis*: use of epitope tagging to detect a killer plasmid-encoded gene product**
R. Schaffrath & P. A. Meacock
- 555 **Characterization of *cpsF* and its product CMP-N-acetylneuraminic acid synthetase, a group B streptococcal enzyme that can function in K1 capsular polysaccharide biosynthesis in *Escherichia coli***
R. F. Haft, M. R. Wessels, M. Fisk Mebane, N. Conaty & C. E. Rubens
- 565 **The plasmid replicator AMA1 in *Aspergillus nidulans* is an inverted duplication of a low-copy-number dispersed genomic repeat**
A. Aleksenko & A. J. Clutterbuck
- 575 **Cloning and expression of the *Haemophilus influenzae* transferrin receptor genes**
S. M. Loosmore, Y. Yang, D. C. Coleman, J. M. Shortreed, D. M. England, R. E. Harkness, P. S.-C. Chong & M. H. Klein
- 587 **Theta-type DNA replication stimulates homologous recombination in the *Bacillus subtilis* chromosome**
F. Morel-Deville & S. D. Ehrlich
- 599 **Identification and characterization of *ispA*, a *Shigella flexneri* chromosomal gene essential for normal *in vivo* cell division and intercellular spreading**
R. A. Mac Síomóin, N. Nakata, T. Murai, M. Yoshikawa, H. Tsuji & C. Sasakawa
- 611 **Specific induction by glycine of the gene for the P-subunit of glycine decarboxylase from *Saccharomyces cerevisiae***
D. A. Sinclair, S.-P. Hong & I. W. Dawes
- 625 **Chemotactic motility is required for invasion of the host by the fish pathogen *Vibrio anguillarum***
R. O'Toole, D. L. Milton & H. Wolf-Watz

MicroCorrespondence

- 639 **Monofunctional biosynthetic peptidoglycan transglycosylases**
B. G. Spratt, J. Zhou, M. Taylor & M. J. Merrick
- 641 **A multilayered sensory system controls yeast glycolytic gene expression**
E. Boles, S. Müller & F. K. Zimmermann
- 642 **Nomenclature of the genes encoding IHF**
R. A. Weisberg, M. Freundlich, D. Friedman, J. Gardner, N. Goosen, H. Nash, A. Oppenheim & J. Rouvière-Yaniv
- 643 **The Gram-negative cell envelope 'springs' to life: coiled-coil *trans*-envelope proteins**
A. Pimenta, M. Blight, D. Clarke & I. B. Holland
- 645 **To be free or not: the fate of pilmelate in *Bacillus sphaericus* and in *Escherichia coli***
Y. Lemoine, A. Wach & J.-M. Jeltsch

Corrigenda

- 649 **The bacterial 'enigma': cracking the code of cell-cell communication**
G. P. C. Salmond, B. W. Bycroft, G. S. A. B. Stewart & P. Williams

- 650 **Role of a potential endoplasmic reticulum retention sequence (RDEL) and the Golgi complex in the cytotonic activity of *Escherichia coli* heat-labile enterotoxin**
W. Cieplak, Jr, R. J. Messer, M. E. Konkel & C. C. R. Grant

VOLUME 19 NUMBER 4

MicroReviews

- 651 **The molecular defences against reactive oxygen species in yeast**
P. Moradas-Ferreira, V. Costa, P. Piper & W. Mager
- 659 **The initiation mess?**
J. Herrick, M. Kohiyama, T. Atlung & F. G. Hansen

Research Articles

- 667 **The two-step lysis system of pneumococcal bacteriophage EJ-1 is functional in Gram-negative bacteria: triggering of the major pneumococcal autolysin in *Escherichia coli***
E. Díaz, M. Munthali, H. Lünsdorf, J.-V. Hölte & K. N. Timmis
- 683 **The afimbrial adhesive sheath encoded by the *afa-3* gene cluster of pathogenic *Escherichia coli* is composed of two adhesins**
M.-I. García, P. Gounon, P. Courcoux, A. Labigne & C. Le Bouguéne
- 695 **Characterization of the CheA_s/CheZ complex: a specific interaction resulting in enhanced dephosphorylating activity on CheY-phosphate**
H. Wang & P. Matsumura
- 705 **Suppression of transcription polarity in the *Escherichia coli* haemolysin operon by a short upstream element shared by polysaccharide and DNA transfer determinants**
J. M. Nieto, M. J. A. Bailey, C. Hughes & V. Koronakis
- 715 **Analysis of the role of the *Pseudomonas syringae* pv. *syringae* HrpZ harpin in elicitation of the hypersensitive response in tobacco using functionally non-polar *hrpZ* deletion mutations, truncated HrpZ fragments, and *hrmA* mutations**
J. R. Alfano, D. W. Bauer, T. M. Milos & A. Collmer
- 729 **Growth-phase-dependent expression of the osmotically inducible gene *osmC* of *Escherichia coli* K-12**
S. Gordia & C. Gutierrez
- 737 **Methylation segments are not required for chemotactic signalling by cytoplasmic fragments of Tsr, the methyl-accepting serine chemoreceptor of *Escherichia coli***
P. Ames, Y. A. Yu & J. S. Parkinson
- 747 **The *bld* mutants of *Streptomyces coelicolor* are defective in the regulation of carbon utilization, morphogenesis and cell-cell signalling**
M. K. Pope, B. D. Green & J. Westpheling

- 757 **Identification of an essential core element and stimulatory sequences in a *Kluyveromyces lactis* ARS element, KARS101**
L. Fabiani, L. Frontali & C. S. Newlon
- 767 **The role of the *lux* autoinducer in regulating luminescence in *Vibrio harveyi*; control of *luxR* expression**
C. M. Miyamoto, J. Chatterjee, E. Swartzmann, R. Szittner & E. A. Meighen
- 777 **Promoter identification and expression analysis of *Salmonella typhimurium* and *Escherichia coli* *nrDEF* operons encoding one of two class I ribonucleotide reductases present in both bacteria**
A. Jordan, E. Aragall, I. Gilbert & J. Barbé
- 791 **A *Salmonella typhimurium* *htrA* live vaccine expressing multiple copies of a peptide comprising amino acids 8–23 of herpes simplex virus glycoprotein D as a genetic fusion to tetanus toxin fragment C protects mice from herpes simplex virus infection**
J. A. Chabalgoity, C. M. A. Khan, A. A. Nash & C. E. Hormaeche
- 803 **Pyruvate oxidase, as a determinant of virulence in *Streptococcus pneumoniae***
B. Spellerberg, D. R. Cundell, J. Sandros, B. J. Pearce, I. Idänpään-Heikkilä, C. Rosenow & H. R. Masure
- 815 **Cloning and sequence of a region encoding a surface polysaccharide of *Vibrio cholerae* O139 and characterization of the insertion site in the chromosome of *Vibrio cholerae* O1**
L. E. Comstock, J. A. Johnson, J. M. Michalski, J. G. Morris, Jr & J. P. Kaper
- 827 **Two different mechanisms are involved in the heat-shock regulation of chaperonin gene expression in *Bradyrhizobium japonicum***
M. Babst, H. Hennecke & H.-M. Fischer
- 841 **Allelic polymorphism and site-specific recombination in the *opc* locus of *Neisseria meningitidis***
A. Seiler, R. Reinhardt, J. Sarkari, D. A. Caugant & M. Achtman
- 857 **Cloning of an *Aeromonas hydrophila* type IV pilus biogenesis gene cluster: complementation of pilus assembly functions and characterization of a type IV leader peptidase/N-methyltransferase required for extracellular protein secretion**
C. M. Pepe, M. W. Eklund & M. S. Strom
- 871 **Overlapping functions for *recA* and *priA* in cell viability and UV-inducible SOS expression are distinguished by *dnaC809* in *Escherichia coli* K-12**
S. J. Sandler
- 881 **A genetic approach for analysing surface-exposed regions of the OmpC protein of *Escherichia coli* K-12**
H. Vakharia & R. Misra
- 891 **Phenylalanine 30 plays an important role in receptor binding of verotoxin-1B**
C. Clark, D. Bast, A. M. Sharp, P. M. St. Hilaire, R. Agha, P. E. Stein, E. J. Toone, R. J. Read & J. L. Brunton
- 901 **Establishing differential gene expression in sporulating *Bacillus subtilis*: phosphorylation of SpoIIAA (anti-anti- σ^F) alters its conformation and prevents formation of a SpoIIAA/SpoIIAB/ADP complex**
T. Magnin, M. Lord, J. Errington & M. D. Yudkin

MicroCorrespondence

- 909 ***hns* mutant unveils the presence of a latent haemolytic activity in *Escherichia coli* K-12**
J. M. Gómez-Gómez, J. Blázquez, F. Baquero & J. L. Martínez

VOLUME 19 NUMBER 5

MicroReviews

- 911 **Cation and sugar selectivity determinants in a novel family of transport proteins**
B. Poolman, J. Knol, C. van der Does, P. J. F. Henderson, W.-J. Liang, G. Leblanc, T. Pourcher & I. Mus-Veteau
- 923 **Lignocellulose degradation by *Phanerochaete chrysosporium*: gene families and gene expression for a complex process**
P. Broda, P. R. J. Birch, P. R. Books & P. F. G. Sims
- 933 **The signal-transduction network for Pho regulation in *Bacillus subtilis***
F. M. Hulett

Research Articles

- 941 **Three two-component signal-transduction systems interact for Pho regulation in *Bacillus subtilis***
G. Sun, S. M. Birkey & F. M. Hulett
- 949 **Expression of *Shigella sonnei* lipopolysaccharide in *Vibrio cholerae***
J.-F. Viret, S. J. Cryz, Jr & D. Favre
- 965 **Antagonistic involvement of FIS and H-NS proteins in the transcriptional control of *hns* expression**
M. Falconi, A. Brandi, A. La Teana, C. O. Gualerzi & C. L. Pon
- 977 **Erythromycin production in *Saccharopolyspora erythraea* does not require a functional propionyl-CoA carboxylase**
S. Donadio, M. J. Staver & L. Katz
- 985 **Three novel plasmid R6K proteins act in concert to distort DNA within the α and β origins of DNA replication**
Y. Flashner, J. Shlomai & A. Shafferman
- 997 **Polynucleotide phosphorylase is required for the rapid degradation of the Rnase E-processed *rpsO* mRNA of *Escherichia coli* devoid of its 3' hairpin**
F. Braun, E. Hajnsdorf & P. Régnier

- 1007 **Analysis of the localization of STE6/CFTR chimeras in a *Saccharomyces cerevisiae* model for the cystic fibrosis defect CFTR/ Δ F508**
C. Paddon, D. Loayza, L. Vangelista, R. Solari & S. Michaelis
- 1019 **Translational initiation competence, 'leaky scanning' and translational reinitiation in *areA* mRNA of *Aspergillus nidulans***
H. N. Arst, Jr & A. Sheerins
- 1025 ***ahpC*, a gene involved in isoniazid resistance of the *Mycobacterium tuberculosis* complex**
T. M. Wilson & D. M. Collins
- 1035 **The *mmsA* locus of *Streptococcus pneumoniae* encodes a RecG-like protein involved in DNA repair and in three-strand recombination**
B. Martin, G. J. Sharples, O. Humbert, R. G. Lloyd & J.-P. Claverys
- 1047 **Structure and function of the *Bacillus SpolE* protein and its localization to sites of sporulation septum assembly**
I. Barák, J. Behari, G. Olmedo, P. Guzmán, D. P. Brown, E. Castro, D. Walker, J. Westpheling & P. Youngman
- 1061 **Temperature-dependent regulation of *Yersinia enterocolitica* Class III flagellar genes**
V. Kapatral, J. W. Olson, J. C. Pepe, V. L. Miller & S. A. Minnich
- 1073 **The *pilA* regulatory gene modulates the pilus-mediated adhesion of *Neisseria meningitidis* by controlling the transcription of *pilC1***
M.-K. Taha, D. Giorgini & X. Nassif
- 1085 **Expression in *Mycoplasma pneumoniae* of the recombinant gene encoding the cytoadherence-associated protein HMW1 and identification of HMW4 as a product**
T.-W. Hahn, K. A. Krebs & D. C. Krause
- 1095 **A novel peptidoglycan-linked lipoprotein (ComL) that functions in natural transformation competence of *Neisseria gonorrhoeae***
M. Fussenegger, D. Facius, J. Meier & T. F. Meyer
- 1107 **Use of peptides to confirm that the *Pseudomonas aeruginosa* PAK pilus adhesin and the *Candida albicans* fimbrial adhesin possess a homologous receptor-binding domain**
L. Yu, K. K. Lee, W. Paranchych, R. S. Hodges & R. H. Ingraham
- 1117 **Identification of a locus involved in meningococcal lipopolysaccharide biosynthesis by deletion mutagenesis**
P. van der Ley, M. Kramer, L. Steeghs, B. Kuipers, S. R. Andersen, M. P. Jennings, E. R. Moxon & J. T. Poolman
- 1127 **Plasmid transfer and expression of the transfer (*tra*) gene product of plasmid pIJ101 are temporally regulated during the *Streptomyces lividans* life cycle**
G. S. Pettis & S. N. Cohen
- 1137 **A novel DnaA protein-binding site at 94.7 min on the *Escherichia coli* chromosome**
R. Kitagawa, H. Mitsuki, T. Okazaki & T. Ogawa

MicroCorrespondence

- 1149 **Phenotypic switching of *Haemophilus influenzae***
E. R. Moxon, B. E. Gewurz, J. C. Richards, T. Inzana, M. P. Jennings & D. W. Hood

VOLUME 19 NUMBER 6

MicroReviews

- 1151 **Aspartyl-phosphate phosphatases deactivate the response regulator components of the sporulation signal transduction system in *Bacillus subtilis***
M. Perego, P. Glaser & J. A. Hoch
- 1159 **Stationary phase in yeast: when the going gets tough**
M. Werner-Washburne, E. L. Braun, M. E. Crawford & V. M. Peck
- 1167 **The SMR family: a novel family of multidrug efflux proteins involved with the efflux of lipophilic drugs**
I. T. Paulsen, R. A. Skurray, R. Tam, M. H. Saier, Jr, R. J. Turner, J. H. Weiner, E. B. Goldberg & L. L. Grinius
- 1177 **Regulatory noise in prokaryotic promoters: how bacteria learn to respond to novel environmental signals**
V. de Lorenzo & J. Pérez-Martín

Research Articles

- 1185 **Extracellular addition of a domain of HIV-1 Vpr containing the amino acid sequence motif H(S/F)RIG causes cell membrane permeabilization and death**
I. G. Macreadie, C. K. Arunagiri, D. R. Hewish, J. F. White & A. A. Azad
- 1193 **Alteration of haem-attachment and signal-cleavage sites for *Paracoccus denitrificans* cytochrome *c*₅₅₀ probes pathway of c-type cytochrome biogenesis in *Escherichia coli***
Y. Sambongi, R. Stoll & S. J. Ferguson
- 1205 **$\Delta\mu\text{H}^+$ dependency of *in vitro* protein translocation into *Escherichia coli* inner-membrane vesicles varies with the signal-sequence core-region composition**
N. Nouwen, B. de Kruijff & J. Tommassen
- 1215 **Identification of a second family of high-molecular-weight adhesion proteins expressed by non-typable *Haemophilus influenzae***
S. J. Barenkamp & J. W. St. Geme, III
- 1225 **mRNA sequences influencing translation and the selection of AUG initiator codons in the yeast *Saccharomyces cerevisiae***
D.-F. Yun, T. M. Laz, J. M. Clements & F. Sherman

- 1241 **Generation of *Campylobacter fetus* S-layer protein diversity utilizes a single promoter on an invertible DNA segment**
J. Dworkin & M. J. Blaser
- 1255 ***Saccharomyces cerevisiae* *TEC1* is required for pseudohyphal growth**
V. Gavrias, A. Andrianopoulos, C. J. Gimeno & W. E. Timberlake
- 1265 **Characterization of the distal promoter element of halobacteria *in vivo* using saturation mutagenesis and selection**
S. Danner & J. Soppa
- 1277 **Effects of F-encoded components and F-pilin domains on the synthesis and membrane insertion of TraA'-PhoA fusion proteins**
W. D. Paiva & P. M. Silverman
- 1287 **A periplasmic protein (Skp) of *Escherichia coli* selectively binds a class of outer membrane proteins**
R. Chen & U. Henning
- 1295 **Identification and characterization of a novel type of replication terminator with bidirectional activity on the *Bacillus subtilis* theta plasmid pLS20**
W. J. J. Meijer, M. Smith, R. G. Wake, A. L. de Boer, G. Venema & S. Bron
- 1307 **Isolation of periplasmic nitrate reductase genes from *Rhodobacter sphaeroides* DSM 158: structural and functional differences among prokaryotic nitrate reductases**
F. Reyes, M. D. Roldán, W. Klipp, F. Castillo & C. Moreno-Vivián
- 1319 **The *Escherichia coli* ribosomal protein S16 is an endonuclease**
J. Oberto, E. Bonnefoy, E. Mouray, O. Pellegrini, P. M. Wilkström & J. Rouvière-Yaniv
- 1331 **Inducible gene expression mediated by a repressor-operator system isolated from *Lactococcus lactis* bacteriophage r1t**
A. Nauta, D. van Sinderen, H. Karsens, E. Smit, G. Venema & J. Kok
- 1343 **Sequence analysis and molecular characterization of the temperate lactococcal bacteriophage r1t**
D. van Sinderen, H. Karsens, J. Kok, P. Terpstra, M. H. J. Ruiters, G. Venema & A. Nauta
- 1357 **Tetrapac (*tpc*), a novel phenotype of *Neisseria gonorrhoeae* affecting epithelial cell invasion, natural transformation competence and cell separation**
M. Fussenegger, A. F. Kahrs, D. Facius & T. F. Meyer
- 1373 **Mutational analysis of the *Escherichia coli* *spoT* gene identifies distinct but overlapping regions involved in ppGpp synthesis and degradation**
D. R. Gentry & M. Cashel

MicroCorrespondence

- 1385 **The members of the so-called BEE95 family of dispersed enterobacterial intergenic elements are already known under the name RSA sequences**
S. Bachellier & M. Hofnung

Indexes

- 1387 **Keyword Index**
1393 **Author Index**

